

Ocean Team Summary

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MODIS Science Team Meeting

July 13-15, 2004

Field Program Coordination

- Need website that lists cruise opportunities, e.g. Repeat Hydrology cruises, Australian Antarctica cruises
 - Field validation data collection has plummeted since end of SIMBIOS¹ program in December.
 - Data still sparse from many major regions (S. Pacific)
 - Suggest IOCCG² support this function.
- Data to be submitted to OCDP³ SeaBASS⁴
 - SIMBIOS data policy to be maintained
 - SeaBASS staff to contact sources of restricted data to see if policy can be waived for their submissions.

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| <ol style="list-style-type: none">1 Sensor Intercomparison & Merger for Biological & Interdisciplinary Ocean Studies2 International Ocean Color Coordination Group3 Ocean Color Data Processing4 SeaWiFS Bio-optical Archive & Storage System |
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Product Suite & Ocean Algorithm Groups

- Groups to be lead by Ocean Team members
 - Initial algorithm groups formed after NASA Ocean Biogeochemistry Annual Meeting in April
 - Open to participation by non-team members
 - Work with OCDP group on implementation & testing of recommended algorithms
- Groups
 - Chl-a: Trees, Campbell, Maritorenna, Clark
 - IOPs: Lee, Carder, Gould, Stamnes
 - AOPs: McClain, Voss, Hooker, Clark, Wang, Mueller, Gordon, Carder, Evans, Kearns, Gould, Stumpf
 - Includes Level-2 processing of some 250m bands
 - FLH: Letelier, Behrenfeld

IOP: Inherent Optical Property AOP: Apparent Optical Property FLH: Fluorescence Line Height

Ocean Algorithm Groups (*continued*)

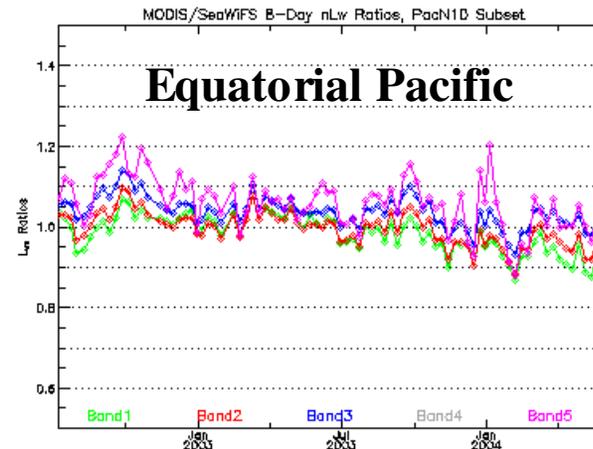
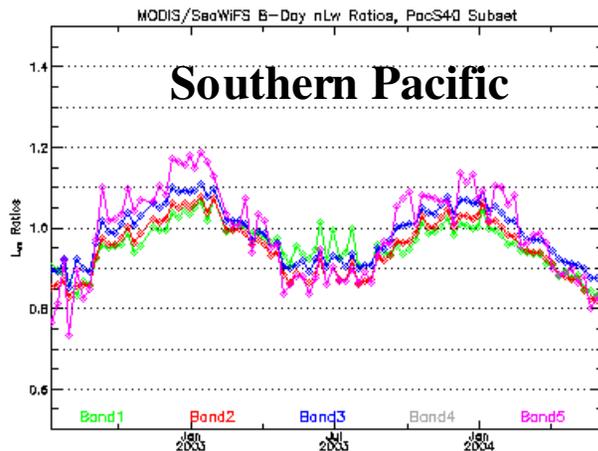
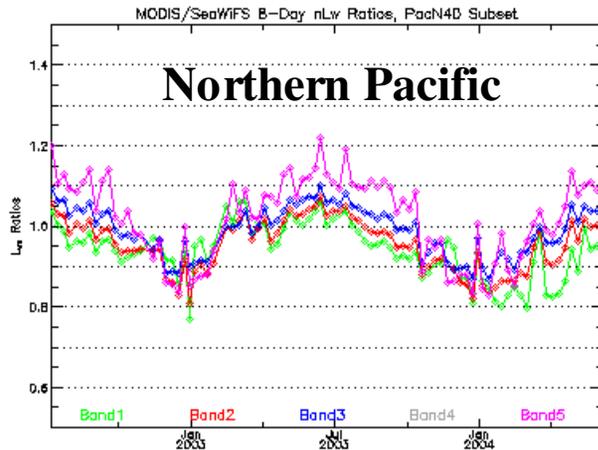
- Kd(490): Clark, Mueller, Trees
 - Provide recommendations on K(PAR)
- PP: Behrenfeld
 - Provide recommendation on SeaWiFS Chl-a/Kd(490) product, i.e., do we need to continue generating it?
- POC: Clark, Stramski
- PIC: Balch, Gordon
- SST: Minnett, Evans
- PAR: Gregg
- CDOM: Siegel, Nelson
- DOC: not covered. Related to CDOM
- Adding 250m, FLH, etc. bands requires significant revision of OC processing code.

Data Quality

- SeaWiFS-MODIS/Aqua Lwn* ratios show:
 - Seasonal cycle at high latitudes of $\sim \pm 10\%$
 - 3%/yr downward trend
- U. Miami group has made good progress on improving MODIS/Terra data quality
 - Corrected polarization tables
 - Detector order reversal corrected
- Striping & RVS! still issues for both sensors
 - Oceans will evaluate Atmospheres destriping methodology

* Normalized water-leaving radiance
! Response vs. Scan

L_w: MODIS/Aqua vs SeaWiFS



- Seasonal differences of $\pm 10\%$ between SeaWiFS and MODIS/Aqua remain at high latitudes (high solar zenith) after polarization correction.
- $\sim 3\%$ downward trend

Calibration Working Group

- **MOBY & SeaWiFS scheduled to end in December: MODIS OC data quality afterwards?**
 - **Primary sources of calibration/evaluation data**
 - **Ocean biogeochemistry CDRs at risk**
- **Jim Mueller (SDSU) & Carol Johnson (NIST) to host OC calibration workshop in October at NIST.**
 - Define methodology for estimating calibration error budget including vicarious calibration
 - Consider future OC calibration system strategy and design (field instruments, sites, etc.)
- Continuation of calibration round-robin, measurement protocols, & instrument pool to be considered (need, funding, leadership issues)

MODIS Team Leader Thrusts

- Data Access
 - OCDP strategy for reduced file size (SeaWiFS format), SeaDAS support, and direct browse and distribution working extremely well (MODIS/Aqua distribution now exceeds SeaWiFS).
- Data Assimilation
 - Ocean color product assimilation into numerical ecosystem models fairly recent development by a few research groups, but not operational centers.
 - Assimilation of SST and perhaps $K_d(490)$ most common.
 - Different models require different formats & resolutions.
 - Provide regridding/averaging tools rather than special products

MODIS Team Leader Thrusts (*cont.*)

- Outreach
 - Discussed approaches to “getting the word out”
 - News worthy events captured in ocean imagery
 - Early notification of publications & news-worthy scientific findings (early preparation for the “big splash”)
 - Articles in popular magazines, e.g., National Geographic, Scientific American, Time, Newsweek, etc.
 - Publication of ocean team annual report (similar to SIMBIOS annual reports)
- Other relevant considerations
 - Annual formal science team performance reviews, e.g., telecon with each PI.
 - Worked very well for the SIMBIOS Project
 - Specific categories of performance defined by Procurement